# THE KUNSTKAMMER
## WONDERS ARE COLLECTABLE

EDITED BY GEORG LAUE
ESSAY BY VIRGINIE SPENLÉ
PHOTOGRAPHY : JENS BRUCHHAUS
ART DIRECTION : MICHAEL HAHN

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KUNSTKAMMER . GEORG LAUE . SCHELLINGSTRASSE 56 . 80799 MUNICH . GERMANY
TELEPHONE . 0049-(0)89-27818555 . TELEFAX . 0049-(0)89-27818556
kunstkammer@kunstkammer.com . www.kunstkammer.com

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## THE KUNST- AND WUNDERKAMMER
## ORIGIN AND DEVELOPMENT IN THE RENAISSANCE AND BAROQUE

Virginie Spenlé

Not for nothing are the collections typical of the Renaissance and the Baroque called 'Kunst- and Wunderkammer', art and curiosities cabinets. They are indeed full of marvels of nature and human artifice: rare *naturalia*, exquisite automata, products from remote lands and choice works of art never ceased to amaze visitors. Princes, rich merchants or scholars, every collector seems to have pursued a single aim: collecting marvels. The composition of such collections is, of course, peculiar. Exhibits include crocodiles, porcupinefish and birds of paradise stuffed and suspended from the ceiling (Figs. 1 & 2); paintings cover walls alternating with shelves on which statuettes and other small treasures are displayed (Figs. 3 & 4); large tables (Figs. 44 & 52) showcase covered cups, *naturalia*, ethnographic artefacts and cabinets in which scientific instruments, technical apparatus, valuables as well as coins and medallions are stored.

(Fig. 1) . **View into the Kunstkammer Georg Laue**

(Fig. 2)

**Kunstkammer of the Danish Scholar Ole Worm**

AMSTERDAM, 1655 . ENGRAVING FROM OLE WORM'S *MUSEUM WORMIANUM*

**(Cat. No. 1)**

The range of precious materials of which the exhibits are made is overwhelming: gold, silver, ivory, ebony, mother-of-pearl, agate, coral, amber, serpentine, etc. are there to be admired in the form of covered cups, cutlery, jars, coffers and small sculpture (Fig. 5). Still the Kunst- and Wunderkammer is by no means a mere accumulation of precious and rare curiosities because a deeper meaning is inherent in it, on which the seemingly arbitrary ordering of the exhibits is premised.

(Fig. 4)

**Kunstkammer Cabinet with Treasures from the Renaissance and Baroque**

SET UP AFTER A STILL LIFE BY THE PAINTER

GEORG HINZ FROM HAMBURG

## 1 . THE KUNSTKAMMER AS *THEATRUM MUNDI*

### THE WORLD AS MICROCOSM

As an encyclopaedic collection, the Kunst- and Wunderkammer is intended to reproduce the world in miniature while at the same time emphasise the status of man in the universe.[1] It reflects not only the natural philosophy of the early modern age but also the categories of knowledge that informed the conception of the world in the 16th and 17th centuries. The principle of the analogy between the macrocosmos and the microcosmos is crucial here: the cosmological system is interpreted as a referential framework in which object and living organism, spirit and matter are interlinked and influence each other. The purpose of the Kunst- and Wunderkammer, which, as a *theatrum sapientiae*, a theatre of knowledge, presents all products of nature, art, and science in a well-arranged fashion, is to elucidate this network of recondite relationships. To do so, the Kunstkammer borrows from the cognitive techniques of the *Ars memoriae* or mnemotechnics, i.e., the art of memory.[2]

### *ARS* AND *NATURA*

If the Kunstkammer is to reveal the mechanisms of the entire universe, what it is also concerned with is defining in the collection room the relationship between man and nature and measuring the 'artificial' creative powers of mankind by the standards applied to natural phenomena. Accordingly, exhibits in Kunst- and Wunderkammer of the early modern age can be divided into two essential categories: on the one hand, *naturalia*, God's creation, and, on the other, *artificialia*, what man has made. The boundary between these two groups is fluid: the usual displays are of rare natural objects and materials that in some way have been subjected to artistic processing (Fig. 57) because they attest to man's ability to take on Nature in the creativity stakes.

Ivory cups turned from elephant tusks (Fig. 6) as well as carved, engraved and mounted vessels made of coconut, rock crystal, ostrich eggs, amber, nautilus shells and the like demonstrate man's creative powers surpassing *Natura* by means of *Ars* (Fig. 7). However, works that to today's viewer have little to do with art are also regarded as 'the product of artifice': for instance scientific instruments and technical apparatus. The fact of the matter is that the objects classified as *scientifica* represent one of the most important genres in the Kunstkammer because they are the ones to demonstrate with the utmost clarity that man is a small god: he is able to measure time and space with instruments and machines he has devised himself and even to induce movement artificially through automata.

(Fig. 6)

**Turned Ivory Treasures**

GERMAN, 16th–18th CENTURIES

**(Cat. No. 3)**

## THE SEMANTIC DIVERSITY OF KUNSTKAMMER OBJECTS

In principle, Kunstkammer objects are semantic vehicles whose symbolic character can only be revealed when they are subjected to a succession of investigative processes. Take, for instance, a coconut cup (Fig. 8).

The coconut is highly prized not only as a rare piece of *naturalia* but also because, as an example of *exotica*, it refers to the world outside Europe that enjoys such extraordinarily high status in the Kunstkammer.[3] Hence it is usually called 'indische Nuß' ['Indian nut'] but the adjective 'indisch' does not in the least refer to India specifically but rather generally to an undefined, exotic world outside Europe.[4]

In fact, many myths have grown up around the origins of the coconut.[5] Because sailors usually found them floating in the sea, the notion was born that coconuts grew on the seabed, detaching themselves on maturity from the parent plant to rise to the surface of the water. Thus the so-called 'Meernuß' ['sea nut'] attained *mirabilia* status, classified as a marvel of nature.

Moreover, *apotropaic* powers had in fact been imputed to the coconut since the Middle Ages: it was supposed to contribute to healing all sorts of diseases and above all to protect the owner from poisoning. This belief in the therapeutic and protective powers of the coconut explains why the nut shells were usually worked into drinking vessels: covered cups, tankards or jugs with elaborate fire-gilt mounts that are notable for both their material and their aesthetic value as works of art.

The nut is often polished and even decorated with carved pictures. Biblical scenes are frequently represented, warning of the consequences of excessive consumption of wine (for instance, the drunken Noah and also Lot and his daughters). Other biblical, mythological and allegorical representations tend to refer to the virtues that in the Renaissance were identity-establishing for courtiers and, therefore, for the upper classes. In the Kunstkammer context, such precious coconut vessels are classed as *artificialia* on the basis of their elaborate mounts and carvings. At the same time they are also *naturalia*, *exotica* and *mirabilia*, uniting several characteristics that are paramount in the semantic diversity of Kunstkammer objects.

The wide range of interpretations to which such exhibits are open is reflected in the manifold possibilities for classification within a single collection: in the Kunstkammer system of ordering, which is geared to the four elements, such mounted nuts can be assigned either to Earth (as vegetal seeds) or Fire (as the work of goldsmiths), i.e., exhibited in contrastive juxtaposition either with the raw natural products of the earth or with other 'artificer's' works forged with fire.

(Fig. 8)

**Court Coconut Cups**

SOUTH GERMAN, SWISS AND ANTWERP

16TH AND 17TH CENTURIES

**(Cat. No. 3)**

## INTELLECTUAL AND SCIENTIFIC REVOLUTIONS

The juxtaposition of raw natural materials (plant seeds, animal horns, tusks or samples of stones) and artworks made from them, marvels of nature as well as scientific and technical implements lend the Renaissance Kunst- and Wunderkammer the character of a theatre of the world, a *theatrum mundi*, where divine creation and human achievements are presented on the basis of selected objects. In the 16th century the Kunst- and Wunderkammer was regarded as an absolute novelty because it sprang from the intellectual regeneration of an era that would go down in history as an age of rebirth, the 'Renaissance'.

The turn from the 15th to the 16th century was indeed a time of radical change, in which values, social order, knowledge and faith were redefined. A new design for living that scholars had introduced about a century before spread outwards from Italy: humanism. The cultural legacy of Greco-Roman antiquity was rediscovered to the benefit of a profound intellectual revolution that centred on man with his virtues and his creative potential.

*Curiositas* (curiosity), which was once regarded as a sin, led to new discoveries that increasingly undermined the medieval worldview. The 'discovery' of the Americas, the New World, in particular not only led to the commercial and colonializing expansion of the European maritime powers but also sparked intellectual change and what amounted to a regular scientific revolution.[6] For the first time the authority of antiquity was seriously questioned and natural scientists began to rely on empirical observation. The birth of a new scientific objectivity was closely linked with the development of global trading networks.[7] The more exotic goods reached Europe (Fig. 9), the greater the need became to derive empirical knowledge from them and to disseminate it through precise description and publication. Thus the development of new scientific and scholarly guidelines was closely related to global trade and the consumption of exotic luxury goods, which underwent a sharp upturn in the 16th century and was also a crucial determining factor in the rise of Kunst- and Wunderkammer.

(Fig. 9) . **Still Life** WITH EXOTIC LUXURY GOODS FROM OVERSEAS

## SACRED AND PROFANE TREASURIES

While the Kunst- and Wunderkammer was born of the intellectual upheavals in the 16th century, it also in a certain sense represented a continuation of the late medieval culture of collecting. The predecessors of the early-modern-age Kunstkammer include not only the collections of ancient art amassed by humanist scholars but also the late medieval Schatzkammer (treasuries, treasure vaults or treasure chambers) encountered in important churches and royal palaces. The latter chiefly comprised art works that were very valuable in the material sense, such as the work of goldsmiths, which were usually kept in secure, vaulted ground-floor rooms and were on display only on rare occasions.

Schatzkammer possess institutional characteristics in so far as they often existed for several generations and underpinned both the financial and spiritual claims to power made by a ruling dynasty or an ecclesiastical community.[1] Apart from reliquaries, table silver, the regalia of monarchical power and jewels, late medieval Schatzkammer were also rich in art works of an exotic nature: coconut cups, coral credenzas, nautilus shells and ostrich eggs with precious mounts are encountered as early as the 14th century in princely and ecclesiastical treasure collections (Fig. 10).[2]

(Fig. 10) . **Precious Gold Works and Exotic *Artificialia***
IN THE SCHATZKAMMER OF ST STEPHEN CATHEDRAL IN VIENNA . FROM THE VIENNA *HEILTUMSBUCH*
VIENNA, 1502 . WOODCUT ON PAPER

(Fig. 11)
**Silver Beaker in the Shape of a Berkemeyer**
BARTEL JAMNITZER . NUREMBERG, 1576–1591
**(Cat. No. 6)**

The presence of such objects in European collections is premised on the early circulation of exotic luxury goods and materials.[10] Indeed by the 14th century the importation of exotic treasures had intensified to the extent that a new kind of collection was made possible, which, unlike the Schatzkammer, not only served the purpose of accumulating treasures of an imposing and official nature but also, and primarily, of delighting a princely art lover on a daily basis.

(Fig. 12)

**Renaissance Cup**

BALTHASAR WENDL . MUNICH, CA 1600

**(Cat. No. 7)**

(Fig. 13)

**Ivory Sculpture of St Jerome**

MASTER OF THE RIMINI ALTAR, CIRCLE OF

SOUTHERN LOW COUNTRIES OR NORTHERN FRANCE, CA 1430

**(Cat. No. 8)**

## THE COLLECTION OF TREASURES AMASSED BY JEAN DE BERRY

Among those ardent late medieval collectors, Jean de Valois, duc de Berry (1340-1416), stands out. The son, brother and uncle of three reigning French kings, Jean de Berry, also called 'Jean le Magnifique' ('John the Magnificent'), was an extremely influential person.[11] He became co-regent for his nephew, King Charles VI (r. 1380-1422) twice, for the first time while the king was still a minor and later after he had succumbed to bouts of insanity.

Jean de Berry is known for his predilection for illuminated manuscripts. He was the one who commissioned the world-famous book of hours, *Les Très Riches Heures*, from the Limburg brothers between 1410 and 1416. What is not so well known is the fact that Jean de Berry was just as passionate a collector of precious treasures: jewels, magnificent silver, precious stones, goldsmiths work, pearls, coins, medallions, gems, ancient cameos, works in carved precious and semiprecious stone, coral mounted in silver, shells, coconuts, etc. He loved small, precious statuettes exquisitely worked in enamelled gold and silver, amber and ivory, most of which were Madonnas or representations of saints (Fig. 13).

The inventory of the duc de Berry's collections also contains entries for some, but only a few *naturalia*, which evidently seemed worth collecting as marvels of nature, *mirabilia*. Along with samples of ore, pieces of amber, wild-boar tusks, a porcupine quill and the jawbones of a 'giant', the duc de Berry also owned several 'corne[s] d'une unicorne' ('unicorn horn(s)', i.e., narwhal tusks).

(Fig. 14)

**Imperial Ottoman Jug**

NSTANTINOPLE/ISTANBUL, CA 1515

**(Cat. No. 9)**

How such collections were presented at the turn of the 15th century to the 16th can also be partly reconstructed with reference to the royal collections under Charles V (r. 1364-1380), who was just as avid a collector as his younger brother, Jean de Berry. From Christine de Pisan (1364-1429) we know that the king permitted himself the luxury of a daily break of several hours in the afternoon, during which he withdrew to the private part of his apartments. Depending on which of his castles he happened to be in at the time, he usually had a room with a daybed in it, a *garde-robe*, an oratory and an *estude*.[12] The *estude* was a very private room in which the monarch would spend several leisure hours a day in the midst of his treasures. The inventory drawn up in 1369, in which the contents of the royal *estude* in the château de Vincennes are listed, reveals how such collection rooms looked: whereas some treasures were stored there in chests, most artworks were kept in tall, closed cabinets.[13] Unlike the dynastic treasure chambers, which were usually housed in dark, ground-floor rooms, such collections of valuable objects were distributed about the collector's various residences and annexed to his private apartment as small, private Schatzkammer.

(Fig. 16)

**Anatomical Model of a Skull**

WITH A MOVABLE MANDIBLE . GERMAN, 17th CENTURY

**(Cat. No. 11)**

The Schatzkammer survived the Middle Ages as a collection type. Every important ruling dynasty and religious community continued to possess a Schatzkammer on into the Renaissance and the Baroque era. The Kunst- and Wunderkammer in turn grew in the 16th century out of such private collections of treasures as those recorded for Charles V and Jean de Berry. The factors crucial to the inclusion of objects in a Schatzkammer were their aesthetic and their material value. Since unmounted *naturalia* were usually viewed as not having an intrinsic value, when they were included at all, they were rarely represented. Except for nine astrolabes and three compasses owned by Charles V,[14] late medieval *estudes* were almost entirely lacking in those scientific and technical instruments and apparatuses that are so very typical of the encyclopaedic collections of the Renaissance. It should be noted that the *estude* was not yet a *theatrum mundi*; not until a century later would claims to universality be asserted by collectors and the *estude* transformed into the Kunst- and Wunderkammer that drew on the cognitive structures of the *Ars memoriae* with the ambition of making encyclopaedic knowledge available in the collection room.

(Fig. 17)

**Collection of Court Hourglasses**

GERMAN, FRENCH AND ITALIAN, 17th AND 18th CENTURIES

**(Cat. No. 12)**

## 3 . PRINCELY COLLECTORS IN THE 16TH AND 17TH CENTURIES

### EARLY KUNSTKAMMER AND *STUDIOLI*

Since the mid-16th century at the latest, princes, aristocrats, patricians, rich citizens, merchants and scholars north and south of the Alps had been arranging encyclopaedic collections in which they presented natural substances and artworks: rare natural substances *(naturalia)*, artworks of all kinds *(artificialia)*, scientific instruments *(scientifica)*, objects from strange lands *(exotica)* and marvels *(mirabilia)* (Fig. 18).

These collections originally had a private character and were, like the late medieval *estudes*, housed in the owner's study or in a room that he could enter directly from his bedroom.

(Fig. 18)

**Studiolo Still Life**

WITH SCIENTIFIC OBJECTS FROM THE RENAISSANCE AND BAROQUE

The *studiolo* that Francesco I de' Medici (r. 1574-1587) had installed in the Palazzo Vecchio, the seat of the Florentine government between 1570 and 1572, is a prime example of such collection rooms.[15] There the grand duke arranged his collector's items in eleven wall cupboards. As in all Renaissance Kunstkammer, the focus in the studiolo owned by Francesco I was on man's ability to shape his natural surroundings and to change them. This is clearly expressed in the paintings in panels on the walls and on the cabinet doors as well as the coffered barrel-vaulted ceiling, at the centre of which stands Prometheus, who evokes the godlike creative powers of man and is enthroned above the rooms. A recently discovered inventory drawn up in 1574 with brief entries for the items in the collection shows which objects Francesco I kept in his *studiolo*.[16] Not all that many exhibits, but choice ones, were distributed to the wall cabinets by genre and type, whereby not only artworks and *naturalia* but also written works enjoyed high status. Accordingly, works in stone and samples of stone were stored in the first two cabinets while the others contained works in metal, artworks on paper, weapons of all kinds, music books and other writings as well as *apotropaic* materials, including forty specimens of coral.

(Fig. 19)

**Mortar Depicting Animals**

CASPAR GRAS . INNSBRUCK, DATED 1603

**(Cat. No. 13)**

## THE ELECTORAL SAXON KUNSTKAMMER IN DRESDEN

The Kunstkammer that Augustus, Elector of Saxony, had founded about ten years earlier, ca 1560, boasted far more exhibits. It was housed on the third floor of the Dresden Residenzschloss, directly above the Elector's private apartments and linked with them by a spiral stair.[17] Even though the original exhibition rooms no longer exist, in this case one of the earliest Kunstkammer inventories has survived. Drawn up after Augustus died in 1587, it lists all exhibits and reflects the specific focus of this exceptional collection, which for the most part consisted of scientific and technical instruments and tools (Fig. 21).

The core of the Dresden Kunstkammer was what was known as the *Reißgemach* ('reißen' means 'to draw', 'Gemach' means 'chamber', 'room'), in which the elector worked personally on mapping his territory with the aid of valuable surveying instruments and solved complex mathematical problems (Fig. 22). Augustus' *Reißgemach* and Francesco's *studiolo* were similar in character: both combined the functions of a study or workroom and a collection room. Both also had the purpose of not only promoting the passive study of books in the sense of a *vita contemplativa*, but of giving their owners analytical and creative access to the world along the lines of a *vita activa*.[18] In these rooms princes acted as mathematicians, philosophers, cartographers and craftsmen in order to study natural phenomena via an approach that was at once intellectual and hands-on.

(Fig. 21)

**Scientific Instruments for Measuring Time and Space**

GERMAN, ENGLISH AND FRENCH, 17TH AND 18TH CENTURIES

**(Cat. No. 13)**

The workshop character of the Dresden Kunstkammer is emphasised by the presence of a turning room situated on the floor above in the attic. There, instructed by artists in the employ of the court, the elector made the ivory cups and turned configurations that were integrated in the actual collection rooms as particularly valuable *artificialia* (Fig. 6).

After the death of Elector Augustus, his heirs turned his Kunstkammer into a memorial room commemorating its founder. They also took the opportunity of considerably enlarging the collection in the first half of the 17th century: the focus of the acquisitions policy now shifted to artworks in semiprecious stones, glass, silver, ivory (Figs. 24 & 26), amber (Figs. 20, 29 & 35), mother-of-pearl (Fig. 55), coral, exotic materials (Fig. 7) and even paintings. Thus the Dresden Kunstkammer became one of the most important collections in the Holy Roman Empire. Even now, the Dresden Art Collections (Fig. 23) attest spectacularly to the splendour and diversity of the Electoral Saxon Kunstkammer.

(Fig. 22)

**Mining Tools in Original Case**

MASTER MR . , TYROL, DATED 1733

**(Cat. No. 16)**

## PRINCELY COLLECTORS IN THE HOLY ROMAN EMPIRE

The electors of Saxony were naturally not the only princes to have amassed Kunstkammer collections north of the Alps. By the early 17th century important Kunst- and Wunderkammer had been built up in Munich, Kassel, Stuttgart and Berlin as well as others that, however, only existed for a brief while:[19] they were plundered in the Thirty Years' War (1618–1648) and could not be restored until the latter half of the 17th century and then only at great expense.

Even the celebrated Kunstkammer owned by Rudolph II, which must certainly have been one of the most important collections in the Holy Roman Empire, sustained considerable losses.[20] When Prague was taken in 1648, the Swedes captured in one fell swoop hundreds of top-quality paintings, bronzes, artworks in ivory and amber, vessels cut from semiprecious stones, scientific instruments, exotic objects (Figs. 40 & 56) and coins. That the Kunstkammer and the Schatzkammer of the Kunsthistorisches Museum in Vienna still boast important artworks today is due, on one hand, to the Emperor Matthias (r. 1612-1619), who had the foresight before the war broke out to have the most valuable treasures moved from Prague to the imperial residence in Vienna.[21]

On the other hand, not only Rudolph II, but also two leading grand-ducal collectors ensured that the Habsburg collections were enlarged: the Holy Roman Emperor's uncle, Grand Duke Karl II Franz of Inner Austria (r. 1564-1590), and Grand Duke Ferdinand II of Tyrol (r. 1564-1595) had installed Kunstkammer in their castles, at Graz and Ambras (near Innsbruck) respectively, which were notable for the sheer number of exhibits they contained, the quality of those exhibits and their diversity.[22]

(Fig. 27)

**Court Rhinoceros-horn Cup**

GERMAN, CA 1620

**(Cat. No. 20)**

Even today the Kunstkammer installed by Ferdinand II at Ambras Castle near Innsbruck can be visited in the building that the Tyrolean territorial prince caused to be built in 1573 to house his collections (Fig. 30). Here the objects are still presented in twenty large display cases that stand back to back in the middle of the room: turned cups, works by silversmiths, art-works in glass, bronzes, basins, coffers and cabinets, compositions of coral, weapons, automata, decorative works made of feathers, etc.

By the early 17th century at the latest, Kunst- and Wunderkammer had become a must for all reigning princes and members of the nobility of the Holy Roman Empire seeking to consolidate their ranking in the imperial federation. Indeed the peculiar political structure of the Holy Roman Empire, which looked like a patchwork quilt of principalities under the aegis of the emperor, gave rise to a cultural competition of sorts between the leading dynasties, thus leading to the emergence of Kunst- and Wunderkammer in the major court centres of the Empire. Consequently, not only had the Habsburgs amassed impressive collections of objects in Prague, Vienna, Ambras and Graz; equally important Kunst-and Wunderkammer were owned by electors such as the Elector of Saxony, dukes like those of Bavaria and Württemberg, margraves, including the Margrave of Baden-Baden (Figs. 32 & 59), and princes of the Holy Roman Empire such as the Esterházy of Forchtenstein Castle.

(Fig. 32)

**Turned Objet d'Art in the Form of a Candlestick**

FROM THE KUNSTKAMMER OF BADEN-BADEN . . GERMAN, CA 1620

**(Cat. No. 24)**

## THE KUNSTKAMMER AS DEMONSTRATION OF POWER

Whether in Ambras, Dresden or Munich – the princely Kunstkammer of the late 16th century often contained the same sorts of exhibits: dynastic portraits (Fig. 33), *naturalia*, left in the raw state or enhanced by artifice, to which universal therapeutic powers were imputed, such as 'unicorn horn' and bezoars (Figs. 34 & 56), taxidermist's specimens of stuffed exotic fauna (Figs. 9, 18, 40 & 65), artworks fashioned of rare, exotic and costly materials such as rock crystal and amber and marvels of technology and science – computing machines and automata (Fig. 36).

(Fig. 33)

**Portrait of Archduchess Anna of Tyrol**

EMPRESS OF THE HOLY ROMAN EMPIRE ... FRANS POURBUS THE YOUNGER, ATTR.

FLEMISH, CA 1600

**(Cat. No. 25)**

(Fig. 34)

**Silver Filigree Jazza and Silver-Mounted Bezoar**

INDO-PORTUGUESE, GOA, 17TH CENTURY

**(Cat. No. 26)**

Hoarding scientific objects should not be disparaged as merely the passion for collecting shown by eccentric princely amateurs. On the contrary, it must be construed as a gesture of princely *representatio*, hence as the habitus of power politics. In fact scientific instruments undergo re-interpretation in the context of the princely collection: they refer symbolically not only to man's creative powers but to the ruler's capability of gauging his context, keeping it under control, adapting it and improving it.[22] Implements for measuring time and space (Figs. 21 & 22) figured particularly prominently in the Kunstkammer of the early modern age.

(Fig. 36)

**Figure Clock with Moor**

JOHANN GEORG KREITMEIR, SIGNED . . MUNICH, CA 1690

**(Cat. No. 28)**

When the 10 000 exhibits in the Dresden Kunstkammer collection were inventoried for the first time in 1585, the share of mathematical and technical instruments included amounted to 950, among them 300 measuring instruments, such as pedometers, odometers for use by equestrians or carriages, quadrants and draughtsman's equipment.[24]

In a political status upgrade similar to that undergone by the scientific and technical Kunstkammer objects, artworks fashioned of precious materials became semantically charged with the issue of *representatio majestatis*. This is particularly true of ivory cups turned on the lathe (Fig. 6).[25] Since the 16th century turning had been an integral part of royal education. Mastering this extremely complex craft was as strong an indicator of a prince's capacity for principled rule as his ability to deal with mathematical problems and cartographic projects was. Using the lathe to aesthetically enhance the value of a precious raw material by transforming it into a work of art, a prince concomitantly demonstrated his ability to shape society into a higher political order. Significantly, entries in the inventory of the Dresden Kunstkammer drawn up in 1585 verify that both the ivory cups which Augustus, Elector of Saxony had personally turned on the lathe and the lathe on which he had turned them were exhibited in his Kunstkammer.[26]

(Fig. 37)

**Terrestrial and Celestial Globe**

JOHANN GABRIEL DOPPELMAYR, SIGNED . . NUREMBERG, DATED 1730

**(Cat. No. 29)**

Not only in Dresden, but also in Munich, Kassel, Prague, Florence and in other seats of royal power, the exhibits contained in princely Kunst- and Wunderkammer bore witness to reigning princes' hands-on involvement with the applied sciences, with art techniques and with medicine and alchemy (Figs. 19 & 38). Thus the reigning prince was stylised into a *princeps artifex* in the rooms that housed his collections,[27] i.e., he was transformed into an artist prince, whose ability to govern was measured by the standards he had attained in the fields of science, crafts and art.

(Fig. 38)

**Mortar with Life Casts**

WENZEL JAMNITZER . NUREMBERG, CA 1550

**(Cat. No. 30)**

## THE KUNSTKAMMER AS THE PROTOTYPE OF THE MODERN MUSEUM

For the very reason that Kunst- and Wunderkammer assume such an important function as the means to, and vehicle for, displaying princely power, they began to undergo a typological change in the late 16th century: from exclusive collections of choice objects that were usually housed in the princely apartments, Kunst- and Wunderkammer were transformed over the course of the 17th century into prototypal museums of a public character in the sense that they became increasingly accessible to an ever-widening circle of visitors. Quite frequently rooms in which collections might be stored and displayed were now displaced to locations outside the ceremonial core of the reigning prince's palace, and sometimes even housed in separate buildings built and earmarked for the purpose. Duke Albrecht V of Bavaria, for instance, caused a structure to be built between the Alter Hof and the Neuveste of the Munich Residenz, a project that was carried out from 1563 to 1567.[28] The Bavarian ruler's Kunstkammer exhibits were showcased there on broad tables set up in light-filled rooms illuminated by large windows. Copenhagen affords another example of the physical removal of collections from a royal palace: King Frederick III of Denmark (r. 1648–1670) did not found a Kunstkammer until later, in the mid 17th century, but when he did, he had a dedicated three-story building erected for it in the grounds of the royal palace in Copenhagen in 1655. The new building housed the armoury, the library and, on the top floor, the royal Kunstkammer.[29] Some of the objects from that royal Danish Kunstkammer can still be admired at Rosenborg Palace.[30]

The creation of collection space distinctly separate from the core of a reigning prince's seat is not the only reliable indication that princely Kunstkammer were subjected to an institutionalisation process from the late 16th century onwards.

Another feature signalising that such a process took place is the fact that from then on the number of qualified personnel hired to curate Kunstkammer collections steadily increased. Scientists, watchmakers and instrument makers and later also more turners and painters began to be hired at European courts as 'Kunstkämmerer' or 'Inspektor der Kunstkammer.'[31] These curators were chiefly responsible for presenting, inventorying and maintaining the exhibits. The duties of a 'Kunstkämmerer' also included receiving and accompanying strangers who wished to view the collections. Although only select circles initially had access to princely Kunstkammer, over the course of the 17th century they were opened up to an increasingly broader public. In Dresden, for example, although the Electoral collections were not open to everyone, the number of visitors to them was nonetheless quite large: the Dresden Kunstkammer visitors' book for the year 1684 records nearly eight hundred visitors – quite a throng for the time. Not only did aristocrats and diplomats come to Dresden from far and wide to see the Kunstkammer owned by the Elector of Saxony but it was also a magnet for artists, merchants, students, scholars and craftsman. Even wedding parties regularly went through the collection rooms.[32]

(Fig. 39)

**Fire-gilt Silver Pomander**

SOUTH GERMAN, CA 1600

**(Cat. No. 31)**

## 4 . NATURAL SCIENTISTS, SCHOLARS AND TRADERS: MIDDLE-CLASS KUNST- AND WUNDERKAMMER

### *THEATRUM NATURAE:* THE COLLECTION AS RESEARCH MATRIX

Apart from the great princely Kunst- and Wunderkammer, collections based on the natural sciences that had been amassed by scholars since the 16th century also had a formative influence on the culture of collecting in the early modern age. Such collections consisted mainly of *naturalia*, including numerous exhibits that come under the heading of *mirabilia*, but *artificialia* were for the most part excluded because collecting was engaged in here primarily for the purpose of outlining a natural history on the basis of natural objects. These were collections that grew out of an endeavour to catalogue the world and its natural phenomena and, like princely Kunst- and Wunderkammer, they were based in principle on the analogy between the microcosm and the macrocosm. As *theatra naturae* they were often part of a comprehensive project for generating and conveying knowledge.[33]

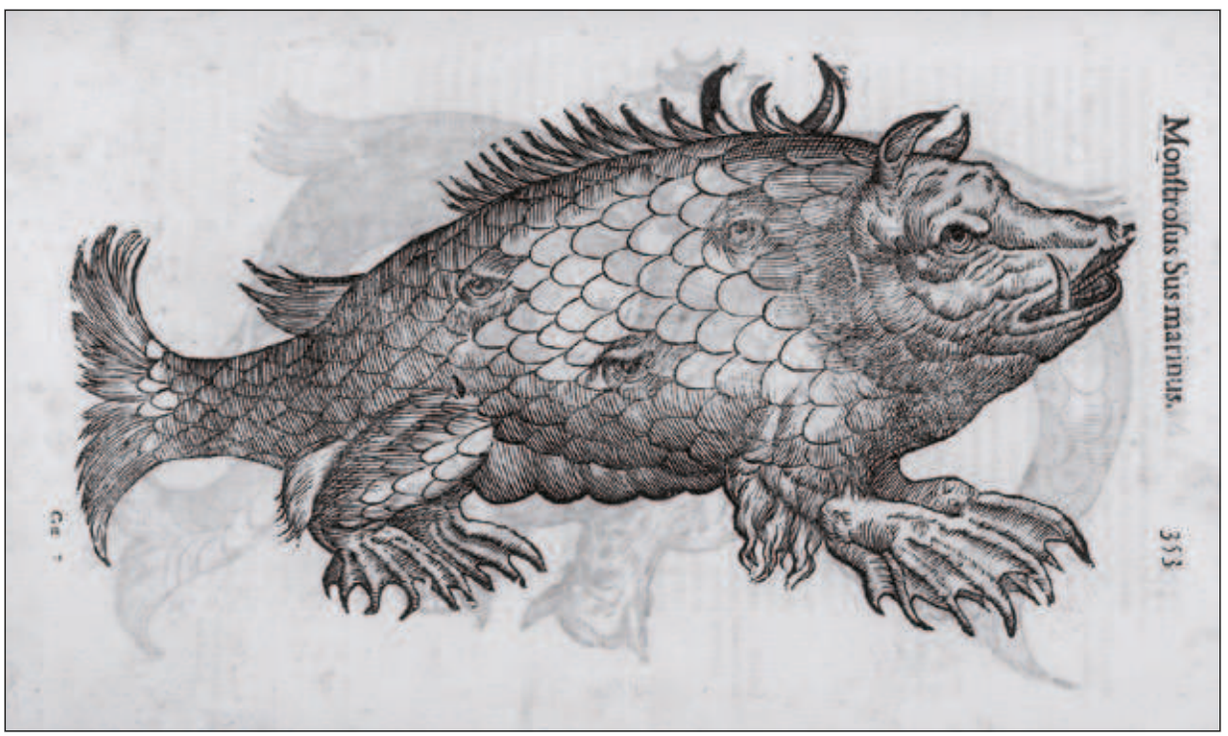
A prime example of this approach is the collection amassed by Ulisse Aldrovandi (1522-1605), a physician and scholar, who held the first chair of natural history at the University of Bologna, and where he founded the first public botanic gardens in 1568.[34] Aldrovandi succeeded in amassing a spectacular collection of botanical and zoological specimens, which, shortly before his death, comprised some 18 000 exhibits (Fig. 41). He also collected 17 volumes illustrated with paintings of *naturalia* (flora, fauna, minerals and monsters), executed by celebrated artists, including the likes of Agostino Carraci (1557-1602) and Jacopo Ligozzi (1547-1627). Under the terms of Aldrovandi's will, his collections were bequeathed to the Senate in Bologna. They were displayed at the Palazzo Pubblico in Bologna until the mid 18th century and later went to the *Accademia delle Scienze dell'Istituto di Bologna* at the Palazzo Poggi, where they are once again accessible to the public. Aldrovandi's collecting activities were dedicated to the generation of knowledge through a universal research project: assembling natural objects and ensuring that they were reproduced in pictures represented to him the first step towards studying nature. The scholar enriched the physical and empirical study of *res naturae*, natural objects, by an intellectual, theoretical approach to it via the study of books. His object-based research in turn led to publications. He not only published the catalogue of his collection (1595) but also a great many treatises in which the *naturalia* in his possession frequently played a role.

(Fig. 41)

**Sea Monster from Aldrovandi's *Monstrorum Historia***

WOODCUT BY GIOVANNI BATTISTA CORIOLANO . BOLOGNA, 1642

PARIS, BIBLIOTHÈQUE NATIONALE DE FRANCE, RÉSERVE A 200 304



RITRATTO DEL MVSEO DI
FERRANTE IMPERATO

## COLLECTING AND PUBLISHING

How close the connection between research, collecting and publishing was in the late 16th century is shown by the *Museo* owned by the Neapolitan apothecary Ferrante Imperato (1550-1625).[35] This collection is still known thanks to the often reproduced *Ritratto del Museo di Ferrante Imperanto* [Portrait of Ferrante Imperato's Museum], one of the rare representations of late 16th-century collection rooms. Three visitors and a young man with a pointer are depicted in a room full of collected shells, stuffed taxidermist's specimens, minerals and herbal specimens, with a huge Nile crocodile at the centre of it all, attached to the ceiling, its belly facing upwards (Fig. 42).

What this copperplate shows is not the only interesting thing about it; so is the original function of the engraving. It in fact represented the visual introduction, as its frontispiece, to the *Historia naturale*, which *Ferrante Imperato* wrote and published in 1599 in hopes of rivalling Pliny the Elder's *Naturalis historia*. The engraved 'portrait' of Imperato's *Museo* emphasises the special status a collection assumes for a scientific natural historian: it functions as a visual and object-based matrix for scientific studies and experiments, the findings of which are laid down in writing in the form of publications. Not by chance was Ferrante Imperato a member of the Europe's first research facility in the natural sciences, the *Accademia dei Lincei* (Academy of Lynxes, i.e., the 'sharp-eyed'), to which Galileo Galilei also belonged. Like Galileo, Imperato openly advocated empirical research and rejected the authority of ancient writers to turn to writing a new natural history based on empirical observation.[36] It is typical of the new relationship between *scientia* (knowledge) und *experientia* (experience, experiments) prevailing in the 16th century as the basis of natural philosophy and promoting the rise of natural-science collections as the epicentre of a new, experimental culture of knowledge that Imperato's *Museo* represented the visual prelude to his natural history.[37]

(Fig. 42)

**Kunstkammer of the Neapolitan Apothecary Ferrante Imperato**

NEAPEL, 1599 . ENGRAVING FROM FERRANTE IMPERATO'S *DELL'HISTORIA NATVRALE*

There is another important aspect to consider in the case of Ferrante Imperato: he was not only a natural scientist but also an apothecary. That means he dealt in the very *apotropaic* substances and pharmaceutical remedies that were in part represented in his collection as unprocessed *naturalia*. Although he never advertised his trade in his treatises, there can be no doubt that his collection was instrumentalised as an indicator of his professional competence.

## THE MIDDLE-CLASS KUNSTKAMMER AS A TRADE SIGN

The example of Ferrante Imperato makes clear that collections, even when they represented the outcome of a passion for the objects or scientific ambition, often served as shop signs advertising their owners' trade. A painting in a small format that is frequently referred to in connection with Kunst- and Wunderkammer because it is one of only a very few of its kind illustrating a 17th-century middle-class collection shows very clearly that this was not only true of apothecaries (Fig. 44).

Joseph Arnold (1646-1674/75), a painter, had depicted the Kunstkammer owned by the Dimpfels, a Regensburg family of tradesmen. A large room lit by two windows is shown, in which the exhibits are presented on the walls and on three large tables. At first glance, they seem to match the 17th-century collection canon: books, paintings, globes, porcelain vessels, fire-gilt silver statuettes, coral formations, shells, including engraved nautilus shells, several figurine clocks (Fig. 45) and automata as well as ebony cabinets. More unusual in this context are the exhibits that are represented in the foreground on the floor of the room. To the left, between the tables, stands a row of mortar and canon models (Fig. 43) of various sizes, in the foreground, right, a small canon with a pile of projectiles, a suit of armour, two drums and a banner.

(Fig. 43)

**Fire-gilt Model of a Canon**

MICHAEL MANN, MONOGRAMMED . NUREMBERG, CA 1600

**(Cat. No. 32)**

Weapons and military insignia were represented in many Kunstkammer; here they are regarded not only as collector's items but refer pointedly to the trade practised by the collector, whose coat of arms is emblazoned on the tablecloth hanging down from the table at the centre.[38] The owner of this collection was Johann Albrecht Dimpfel (1639-1692), who opened an ironmongery in Regensburg in 1663.[39] In existence for several generations without interruption, it was the foundation on which the fame and riches of the Dimpfel family in Regensburg were based. Even today, the portrait of Johann Albrecht Dimpfel executed by the copperplate engraver Johann Albrecht Gutwein in 1692 attests to the ironmonger's high social status.[40] The painting depicting his Kunstkammer in turn underscores the success he had with his ironmongery, which is presented in it as the result of the owner's education and as a means to upward mobility.

(Fig. 44)

**Kunstkammer of the Dimpfel family**

JOSEPH ARNOLD . REGENSBURG, 1668 . OPAQUE PAINT WITH GOLD HEIGHTENING ON VELLUM

ULM MUSEUM, INV. NO. 1952.2611

## AUGSBURG AS A CENTER FOR ART IN EUROPE

Most German merchants who earned a reputation as leading collectors in the 16th and 17th centuries lived in cities granted imperial immediacy, i.e., they were directly under the authority of the Holy Roman Empire, a status that promoted economic growth in the cities that enjoyed it and promoted the rise of far-flung trade routes and communications networks. This is very definitely true of Augsburg, which had developed into a European art hub since the 16th century. Luxury goods and artworks were produced there, sold locally and also exported throughout Europe.[41] It is well known that Augsburg shared with Nuremberg the reputation of being the capital of goldsmithing. Well into the 18th century, Augsburg goldsmiths and silversmiths were internationally renowned; they worked on commission for the rulers of German principalities and European potentates. From magnificent silver services for banquets (Fig. 51) to silver furnishings: silver and gold objects of all kinds could be ordered in Augsburg and acquired by a prince, rich aristocrat or patrician.[42] The Augsburg instrument makers were consummate masters of their craft.[43] Hence their watches (Fig. 45), automata and scientific compendia were proverbially worth their weight in gold.

(Fig. 45)

**Figure Clock with Crucifixion**

CASPAR PFAFF, SIGNED – AUGSBURG, CA 1610

**(Cat. No. 33)**

Alongside goldsmiths and instrument-makers, the guild of craftsmen known as 'Kistler' (chest-makers) contributed to Augsburg's renown as the European capital of the luxury trade. Augsburg cabinet-makers had been the leading makers of richly decorated cabinets (Figs. 46–49) used for the storage of valuables and collector's items. During the 16th century they mainly made square portable furniture (called 'Kisten', meaning 'chests', in English a cognate term) of native woods decorated with intarsia, which increasingly came to be used for storing and presenting Kunstkammer objects (Fig. 46).

(Fig. 46)

**Court Renaissance Cabinet**

AUGSBURG, CA 1570

**(Cat. No. 34)**

Towards the close of the 16th century, those cabinet chests developed into true architectural furniture (Figs. 47 & 58), which was finished with ebony veneer, silver mounts and fittings, ivory intarsia (Fig. 49) or even inlaid with semiprecious stones.[44] Fitting up these so-called 'writing desks' into sumptuous furniture was a task allotted to highly specialised artisans, who had also settled in Augsburg: watchmakers, musical instrument makers, sculptors, smiths who founded and forged brass, engravers, etc., worked in tandem with the chest-makers to create the choicest furnishings for collectors.

(Fig. 47)

**Renaissance Facade Cabinet**

AUGSBURG, CA 1600

**(Cat. No. 35)**

## PHILIPP HAINHOFER AND THE *POMMERSCHER KUNSTSCHRANK*

Buoyed up by the Augsburg art production, Philipp Hainhofer (1578-1647) made a name for himself in the first half of the 17th century as an art expert and agent.[45] The scion of a respected Protestant family of cloth merchants, Hainhofer travelled for study purposes to Italy and the Low Countries before founding a firm of his own dealing in luxury goods of all kinds in 1601. He specialised in ordering, buying in and selling art works, most of which were made in Augsburg. In particular, he procured choice Kunstkammer objects for the aristocratic and royal collectors who were his clientele. Combining mercantile and diplomatic activities, Hainhofer skilfully exploited Augsburg's status as a traffic junction and trade and information hub. He served several princes in the dual capacity of furnishing them with political bulletins and procuring valuable art objects. He was even able to persuade some of them to order magnificent Kunstkammer furnishings, personally overseeing the design and manufacture of these cabinets locally and stocking their abundant and capacious drawers and compartments with appropriate *naturalia* and *artficilia*. Thus the *Pommerscher Kunstschrank* [46] was made and outfitted between 1611 and 1616 on commission from Philipp II of Pomerania-Stettin. It was destroyed in the Second World War; its contents are all that remain of it and they have survived in the Kunstgewerbemuseum in Berlin.[47] In consultation with Philipp II, Hainhofer had this magnificent piece of furniture and its contents made in Augsburg, employing the best 'Kistler', goldsmiths, watchmakers, painters, etc. to collaborate on the project.

The importance Hainhofer attached to this piece of Kunstkammer furniture is revealed in a painted panel that was built into the cabinet itself and shows the cabinet being delivered to its owner (Fig. 48). This is, of course, a fictitious pictorial invention because the painting was executed before the cabinet was delivered. All the more interesting, therefore, is the scene executed by the Augsburg painter Anton Mozart, without a doubt under precise instructions from Hainhofer: while a procession of artists who participated in the project is descending a stair in the foreground, right, to enter the room at the bottom, Hainhofer is portrayed standing in front of the *Kunstschrank* in the background, left, next to Philipp II and his wife, surrounded by important dignitaries of the Schwerin court and some of their clients. Hainhofer is showing the duke the contents of a drawer, which he has removed for the purpose. This painting is classified as belonging to the genre of ceremonial pictures, which were usually commissioned by princes to commemorate royal weddings, visits of state and important audiences or ceremonial investitures.[48] Thus the delivery of the *Pommerscher Kunstschrank* itself has been stylised into a ceremonial act celebrating Hainhofer's admission to court society and, in a certain sense, anticipating his appointment as Pomeranian Councillor to the Schwerin court. Although this citizen of Augsburg is clearly assigned to court society in this representation, he is at the same time, from the spatial standpoint, closest to the artists and the *Kunstschrank*; between Hainhofer and the duke in turn there are artworks from a drawer of the *Kunstschrank*. Thus Hainhofer's status as an intermediary between the court and the artistic sphere is emphasised. It is his intensive dealings with art that ennoble him and make him a courtier.

The Augsburg citizen's self-image is clearly expressed in this panel painting: unlike the Dimpfel family, Hainhofer did not view himself as a dealer but rather as an art expert, therefore as a man of higher social status, one who supported princes in their need for official show by procuring exquisite, even matchless, artworks. Although Hainhofer for commercial reasons also commissioned smaller, relatively reasonably priced coffers or cabinets for his trade,[49] the clientele he targeted with his valuable and expensive art cabinets was exclusively royal. In his dealings with that clientele, he cleverly used his own Kunstkammer to stage his promotional presentations.

It is not by coincidence that collectors like Dimpfel or art experts like Hainhofer chose to live and work in cities granted imperial immediacy. The oligarchic structure of such free imperial cities promoted an upturn in trade and art, hence also the emergence of a culture of collecting that interacted with the court and its inner circles yet concomitantly showed behaviour patterns of its own. This was the case not only in the free imperial cities of the Holy Roman Empire but also in the chief commercial centres of northern Europe, notably Antwerp and Amsterdam.

(Fig. 48)

**The Presentation of the *Pommersche Kunstschrank***

ANTON MOZART . AUGSBURG, 1615-1616 . OIL ON PANEL . STAATLICHE MUSEEN ZU BERLIN, KUNSTGEWERBEMUSEUM, INV. NO. P 183A

## THE MIDDLE-CLASS COLLECTING CULTURE IN ANTWERP

The emergence of a flourishing culture of collecting in the northern and southern Low Countries is closely linked with the development of global seafaring (Fig. 53). Since the discovery of the direct maritime route to India via the Cape of Good Hope, the Portuguese had assumed the leading role in the spice trade. As a spice-trade entrepôt north of the Alps, Antwerp developed into a major European trade and finance hub during the 16th century while also establishing itself as a centre for goldsmithing, printing, painting, sculpture, tapestry and silk weaving, diamond-cutting and glass-making (Fig. 50).[10]

(Fig. 50)

**Filigree Glasses**

*FAÇON DE VENISE* OR VENICE, CA 1600

**(Cat. No. 37)**

However, during the wars for independence fought by the northern Low Countries against Spain, the port city was hit in 1566 by a serious economic crisis and went into long-term decline, losing its status as an international harbour city and chief entrepôt for overseas trade to Amsterdam. Nonetheless, Antwerp continued to play a considerable role as a producer of high-quality cultural goods and art objects during the 17th century. Collectors in Antwerp concentrated not only on painting but expanded their focus to include all art objects produced locally and which might attest to their owners' appreciation of art and knowledge of it: for instance, scientific instruments, glass in the Venetian manner and cabinets featuring painted panels or interiors fitted with mirrors.[11]

(Fig. 51)

**Group of Gold Works**

GERMAN, 16TH AND 17TH CENTURIES

**(Cat. No. 38)**

The rich production of art in Antwerp and the focus of collectors there is exemplified by the Kunstkammer paintings (Fig. 52) invented in Antwerp ca 1610 as a distinctive genre in its own right that was very popular until the close of the 17th century.[52] Even though these paintings should not be regarded as reproducing existing collections, they still show that elite collectors from Antwerp were chiefly inte-rested in *artificialia*. Indeed, there are hardly any *naturalia* on view in these fictitious collection assemblages. Instead paintings and sculptures, scientific instruments, jewels, silver cups, tapestries and cabinets figure prominently in them – in brief, luxury goods that were made locally and marketed far beyond the borders of the country as valuable collector's items and highly desirable articles. Things looked rather different in the northern Low Countries.

(Fig. 52)

**Allegory of Sight**

JAN BRUEGHEL THE ELDER AND PETER PAUL RUBENS . ANTWERP, 1617 . OIL ON PANEL

MADRID, MUSEO DEL PRADO, INV. NR. P01394

## LOW COUNTRIES *KONSTKAMER* IN THE GOLDEN AGE

A German envoy to the northern Low Countries noted in 1610 that he had seen in Amsterdam 'many beautiful paintings and numerous rare objects from India in the homes of private individuals.'[53] In the 17th century, paintings and *exotica* did in fact represent the focus of middle-class collecting in the northern Low Countries.[54] The vast number and high quality of the paintings produced by Dutch masters at this time are sufficient indicators of the fact that paintings were a ubiquitous commodity during the 'Golden Age' of the Republic of the Seven United Provinces.[55] The fondness shown by its citizens for exotic objects in turn goes back to the colonial expansion of the Republic, which more than held its own against Portugal in seafaring and in the military conquest of new territories in the 17th century. The founding of the Dutch East India Company (*Vereenigde Oostindische Compagnie:* VOC) in 1602 and the West Indies Company *(West-Indische Compagnie:* WIC) in 1621 sparked off an upturn in the importation of exotic goods: ships from India, Ceylon (Sri Lanka), the Dutch East Indies (Indonesia), Japan, Africa and Brazil anchored in the ports of Enkhuizen, Middelburg, Rotterdam, Delft and especially Amsterdam, laden with cargoes of spices, textiles, porcelain vessels (Fig. 53), shells, precious stones, perfumes, medicinal substances, ivory, etc.[56]

It was not only the economic upturn brought on by seafaring; the oligarchic structure of the Republic was another factor that strengthened the status of the mercantile classes and promoted the creation of numerous collections. Apart from the collections amassed by humanist scholars, who were chiefly interested in studying Greco-Roman antiquity on the basis of writings, archaeological finds and above all coins and medallions, collections also existed in the Republic, as they did throughout Europe, that were primarily scientific in character. Collections of this kind were particularly common among apothecaries and natural scientists as well as colleges of surgeons, especially in university cities such as Leiden. In addition, rich citizens owned collections of art and *naturalia*, and those collections were usually known as *'Konstkamer'*. In Amsterdam alone, some ninety collections have been verified for the years between 1585 and 1735; further, there were as many collections of this kind again in the rest of the Republic.[57]

The special status enjoyed by the northern Low Countries in the 17th-century European collecting landscape did not escape the notice of princely collectors; they often acquired collections en bloc there to upgrade their own Kunstkammer. The Kunstkammer owned by Friedrich III of Schleswig-Holstein-Gottorf (r. 1616-1659) at Gottorf Castle, the vast collection of art and *naturalia* amassed by Cosimo III de' Medici (r. 1670-1723) in Florence and the *Kunstkamera* of Tsar Peter the Great in Saint Petersburg were all considerably enlarged by the bulk purchase of entire collections in the northern Low Countries.[58] Two of the most important art collectors of the 18th century, Duke Anton Ulrich von Braunschweig-Wolfenbüttel (1633-1714) and Prince Eugene of Savoy (1663-1736), are also known to have gone to Amsterdam in search of art treasures, in particular Chinese export porcelain, blue-and-white *Kraak* porcelain (Fig. 53).

(Fig. 53)

***Kraak* Porcelain and Mother-of-Pearl Treasures from Overseas**

16TH AND 17TH CENTURIES

And it was porcelain that drove Prince Eugene to Petronella Oortmans-de la Court (1624-1707) – one of the most distinguished collectors in Amsterdam. According to a contemporary report, Prince Eugen would spend half a day at a time in that rich woman's home gazing at 'three little chambers full of porcelain.'[60] There he could also admire outstanding paintings, watercolours of exotic flora and fauna, cut-stone vessels, cameos, medallions and ivories, including eleven works by the sculptor Francis van Bossuit (1635-1692), to whom Petronella Oortmans-de la Court was a benefactor all her adult life (Fig. 54).[61]

Another Dutch artisan who was represented by a higher than average number of works in the Oortmans-de la Court collections was Cornelis Bellekin (ca 1625-before 1711), a cutter and engraver of mother-of-pearl. The Frankfurt scholar Zacharias Conrad von Uffenbach also visited the Oortmans-de la Court *Kunstkamer* while staying in Amsterdam and reported in his description of her collection on 'a small box in which there was nothing but mother-of-pearl shells, all of them were carved by Bellekin, and so beautifully that we have seen their like nowhere else.'[62] Some days before Uffenbach had been permitted to admire some 'artworks of mother-of-pearl, made by Bellekin,' including 'a superbly carved nautilus standing on a very beautifully worked silver foot made in Augsburg' in the Kunstkammer owned by a physician named Birrius.[63] It becomes clear from Uffenbach's account of his travels that just as Francis van Bossuit reacted successfully with his valuable ivory statuettes and reliefs to the demand for them from rich collectors and dealers in the Low Countries, Bellekin with his engraved nautilus shells appealed to the Dutch market for *naturalia* from overseas that had been subjected to artistic enhancement.

(Fig. 54)

**Smoking Satyr with Clay Pipe**

FRANCIS VAN BOSSUIT, AMSTERDAM, CA 1690

**(Cat. No. 39)**

He sold his engraved nautilus shells without mounts but the shells were so highly prized that, as fragile as they were, some of them were sent to Augsburg or Stockholm (Fig. 55) so that they might be handsomely mounted in silver. Unsurprisingly, these artworks that were literally made to order for collectors in the Low Countries also found a clientele among European reigning princes. Bellekin's artworks were added to the princely art collections that were most important shortly before and after 1700, including the Green Vault in Dresden, the Royal Prussian Kunstkammer in the Berliner Schloss and the Habsburg Schatzkammer in Vienna. Before 1721 the Duke of Sachsen-Gotha-Altenburg became the owner of a magnificent Bellekin cup, which he incorporated in his Kunstkammer at Friedenstein Castle.[44]

The success enjoyed by Bellekin and van Bossuit shows how the availability of exotic luxury goods and the covetousness displayed by so many merchants who distinguished themselves as collectors in the northern Low Countries contributed to the promotion of artists and the emergence of novel works of art, some of which were marketed far beyond the borders of the country to a princely clientele.

(Fig. 55)

**Court Nautilus Cup**

BY THE SWEDISH COURT GOLDSMITH HANS CLERCK . STOCKHOLM, CA 1670

BLACK ENGRAVINGS BY CORNELIS BELLEKIN, SIGNED . AMSTERDAM, CA 1660

**(Cat. No. 40)**

## 5 - MARVELLING AT WONDERS: THE 'WUNDERKAMMER' AS COGNITIVE SPACE

### WONDER IN THE NATURAL PHILOSOPHY OF THE EARLY MODERN AGE

As widely as Kunstkammer varied in the 16th and 17th centuries, depending on whether they belonged to princes, traders, apothecaries, artists or scholars, they nonetheless always had something in common: the aim was to amaze visitors and arouse their curiosity. The term 'Wunderkammer,' coined by Samuel Quiccheberg in a theoretical treatise (1565) on collecting and subsequently used as a synonym for 'Kunstkammer', shows that wonder was indeed a key characteristic of collections in the early modern age.[65] The emergence of 'Wunderkammer' in the 16th century was premised on a revaluation of *curiositas*. This trait had been defined as a sin in theological circles since St Augustine. Still, marvelling at the omnipresent wonders that shaped Christians' lives in the late Middle Ages was unaffected by that negative evaluation.[66] On the one hand, people experienced marvels that terrified them, such as freaks or comets, and interpreted those marvels as signs of divine wrath heralding punishment for sins and corruption. On the other, those wonders were counterbalanced by numerous positively connotated ones derived from the idea of remote exotic, wondrous worlds perceived as the antipodes of Europe.

Objects known as *mirabilia* that were exhibited in late medieval Schatzkammer, for example, were regarded as the incarnation of positive wonders: 'unicorn horn' (narwhal tusk), 'sea nut' (coconut), 'gryphon (or griffon) eggs' (ostrich eggs) and even 'serpents' tongues' (fossilised shark teeth) (Fig. 10). People who lived at that time saw in those fabulous and bizarre natural objects God's direct intercession in the natural order of things. And visitors to ecclesiastical and profane Schatzkammer believed they could come into direct contact with the demiurgic powers of the divine by being in the same space with, or physically touching, *mirabilia*. Hence *apotropaic* properties were usually imputed to such 'divine wonders' (Fig. 56): they were supposed to protect their owners from poison, disease, thunderstorms and all other phenomena that boded ill – a belief that persisted on into the 18th century in the face of all scientific knowledge and that is also characteristic of the approach to *mirabilia* in the Kunst- and Wunderkammer of the early modern age.

(Fig. 56)

**Apotropaic Kunstkammer Objects**

SOUTH GERMAN, INDO-PORTUGUESE AND DUTCH

16TH–18TH CENTURIES

**(Cat. No. 41)**

Inspired by *mirabilia* or other marvels of divine origin, some theologians in the late Middle Ages legitimated curiosity as a positive motivating force because it attested to man's endeavour to honour divine Creation, an attitude they welcomed. However, the discovery of the Americas made *curiositas* flare up again on an unprecedented scale and led to a radical reappraisal of the concept. Wonder was completely rehabilitated as the object of philosophical observations. By the close of the 16th century, the negative attitude adopted by natural philosophers, who had viewed amazement at wonders as a sign of ignorance, had been consigned to the past. The wonderful was merely perceived as a deviation from the norm. Hence studying wonders was believed to contribute to a better understanding of the mechanisms informing natural Creation as a whole.[67]

By assembling *mirabilia* of both natural and artistic provenance, the Kunstkammer presents wonder as the interface between nature and art (Fig. 57). The investigation of natural wonders, marvels of nature, led to innovations in the *artes mechanicae*: only by studying natural wonders and through imitatively intervening in divine creation patterns could the artist himself produce mechanical marvels.

The juxtaposition of *mirabilia* of a natural and an artistic kind made the Kunstkammer the playground of natural scientists and artists. However, the playful character of such collections should definitely be taken seriously because it stems from the endeavour of natural philosophy to explore the arcane mechanisms of Creation on the basis of the abnormal, i.e., the wondrous.[68]

(Fig. 57)

**Kunstkammer Painting on *Pietra Paesina***

THE TEMPTATION OF ST ANTHONY . ANTONIO TEMPESTA . ROME, CA 1600

**(Cat. No. 42)**

(Fig. 59)

**Court Silver and Enamel Casket from the Kunstkammer of Baden-Baden**

NICLAUS SCHMIDT (?), NUREMBERG, CA 1600

**(Cat. No. 44)**

## KUNSTKAMMER OBJECTS AS THE FORCE DRIVING CURIOSITY

The status accorded to wonder as a cognitive resource is not shown in the Kunstkammer by *mirabilia* alone. On the contrary, most of the exhibits were aimed at amazing viewers and arousing their curiosity. In this respect collection cabinets played an important role, especially the magnificent cabinets that as early as the close of the 16th century functioned both as storage furniture and collector's items in their own right (Fig. 58).[45]

A distinguishing feature of those Kunstkammer cabinets is the compartmentalisation that blocks immediate visual and tactile access to the actual exhibits. Panel doors, drawers, compartments and casings must be opened before the objects in the collection can be accessed. Secret drawers are deliberately designed to delay the process of discovery: only after a long search, after fillets, interior walls or elements of the decoration have been felt by the seeker's fingertips and sophisticated opening mechanisms have been unlocked are the minute objects revealed that are hidden at the heart of the cabinet in the most inaccessible place. The characteristic feature here is, therefore, the proliferation and diversity of the casings, each of which the seeker opens by groping to find the opening mechanism, before the true core, the collection objects are brought to light. The tactile process of discovery is visually supported by the decoration of Kunstkammer cabinets, which usually becomes more elaborate the further one progresses inwards. The outer panel doors in particular often open to reveal a magnificently decorated façade of drawers, which quite frequently are in stark contrast to the simple exterior appearance of the cabinet, arresting the viewer momentarily before he actively engages in seeking the collection objects (Fig. 47).

(Fig. 58)

**Court Renaissance Cabinet with Secret Drawers**

BOAS ULRICH, CIRCLE OF (?), AUGSBURG, CA 1600

**(Cat. No. 43)**

The same playful discovery principle is clearly shown in the ivory anatomical models in which the Nuremberg sculptor and turner Stephan Zick (1639-1715) specialised towards the close of the 17th century. They are often devoted to representing organs (Fig. 61) or entire human bodies that can be disassembled into their individual parts. Popular models made by Zick represented both men and/or pregnant women (Fig. 62). The latter were often presented in a coffin or on a bier. The women are depicted as having died in childbirth and in general they reminded viewers of the ineluctability of the mortality to which all life is subject. As *memento mori* they invited viewers to linger and contemplate. However, these quiet observations on *vanitas* were meant to be followed by a playful approach to the object of study itself. Zick's models in fact encouraged Kunstkammer visitors to be hands-on with the object. They were supposed to open the pregnant woman's abdominal wall, be

(Fig. 61)

**Ivory Model of an Eye**

STEPHAN ZICK , NUREMBERG, CA 1680

**(Cat. No. 46)**

amazed at the unexpected view into the interior of her body and study female anatomy by removing the individual organs, even the uterus with the foetus. Zick's models of pregnant women were not in the least intended as teaching models for specialists in the field of medicine; the representation of the organs did not match the state of knowledge that had been attained by the late 17th century (the heart, for instance, lies at the centre of the thorax), and the material chosen (ivory) would have been far too costly for use in the making of teaching aids. Quite the contrary, Zick's models are typical Wunderkammer objects, intended to kindle the curious viewer's interest in anatomical issues and to set in motion the very process of exploration and discovery which was the aim of the Kunst- and Wunderkammer in the early modern age.

(Fig. 62)

**Anatomical Model of a Pregnant Woman**

STEPHAN ZICK , NUREMBERG, CA 1680

**(Cat. No. 47)**

## THE BAROQUE KUNSTKAMMER AS A THEATRE OF WONDERS

Zick's anatomical models show that visits to Kunstkammer continued to centre on wondering at marvels, being amazed by them, on into the 18th century although a change took place over the course of the 17th century. Whereas marvelling, wondering at something startling, was originally the starting-point of a cognitive process that was supposed to initiate visitors to Kunstkammer in the arcana of natural history, by the late 17th century it had become an end in itself. Visiting a Kunstkammer increasingly came to mean attendance at a spectacle. The *Museo* of Marchese Ferdinando Cospi (1606-1686) in Bologna (Fig. 63) is notable in this respect. In 1677 Lorenzo Legati published the catalogue of that collection, which was famous at the time and much visited.[70] Numerous specimens representing the Three Kingdoms of Nature (animal, vegetable and mineral) were on display, along with scientific instruments, Roman antiquities, medallions and works of sculpture. Cospi himself had a marked preference for *mirabilia* of all kinds and collected anything that had to do with *mostri humani*, i.e., human beings with physical disabilities. In his Kunstkammer he exhibited, for instance, a portrait of Sebastiano Biavati, a dwarf. Not only was Sebastiano Biavati represented by his picture in the collection, but he was also present in person:[71] as *custode del museo* he was the one to guide and accompany visitors through the collection rooms. So Legati introduced his catalogue of the *Museo Cospiano* with a copperplate (Fig. 63), in which Biavati is shown with a pointer in the midst of a collection room. The visitor depicted on the edge of the engraving is, for his part, pointing with outstretched arm to the collection in which the little 'Kunstkämmerer' is integrated as a living example of *mirabilia*.

(Fig. 63)

**The Dwarf Sebastiano Biavati**

AS CUSTODIAN OF *MUSEO COSPIANO* . BOLOGNA, 1677

FROM LORENZO LEGATI'S *MUSEO COSPIANO* . BOLOGNA, BIBLIOTECA DIGITALE DELL'ARCHIGINNASIO

However, the theatrical aspect of the Baroque Kunstkammer was not merely due to the spectacular objects in such collections (Figs. 64-66), which enticed visitors to savour them from the visual angle as peeping forms. Instead all five senses were addressed to ensure that a visit to a collection was designed as a memorable experience. A prime example of this approach is provided by the celebrated Kunstkammer established in the mid 17th century by the universal scholar and Jesuit Athanasius Kircher (1602-1680) in the *Collegium Romanum*.[72] Kircher's assistant, Giorgio de Sepi, noted in the catalogue of the *Museum Kircherianum* he published in 1678 that visitors would be greeted there by a roll of organ music, which could imitate sounds ranging from birdsong to Egyptian bells.[73] Just as a musical prelude puts a theatre audience in the right mood for a play, the organ in Kircher's Kunstkammer provided the ideal audial build-up to the visual and tactile stimuli emanating from the objects in the collection. By then at the latest a visit to a Kunstkammer had assumed aspects of a spectacular show but its educational value tended quite often to be diminished: from a cognitive space shaped by philosophical and scientific content, the Kunstkammer had developed into a Baroque theatre of wonders towards the end of the 17th century.

(Fig. 64) . **Siren**

JAPANESE, EDO PERIOD, CA 1800

**Representation of a Siren**

IN J. B. R. ROBINET'S *CONSIDÉRATIONS PHILOSOPHIQUES* . PARIS, 1768

**(Cat. No. 48)**

## WONDER: BEGINNING AND END OF THE KUNSTKAMMER

Whereas wonder had been the guiding principle informing the Kunstkammer in the 16th century, this concept had by the 18th century at the latest assumed a negative connotation, concomitantly with a debasement of the Kunstkammer as a collection type. By that time 'freak shows' subsisted merely to gratify the naked curiosity of a sensation-seeking public at fairs; they had ceased to be of interest to scholars and the educated, eliciting only embarrassment and disgust rather than stunned admiration.[74] For scientists in particular, marvels of nature had lost much of their appeal. Dwarfs and giants were no longer dissected as often as they once were; physicians had turned their attention to the functioning of normal organisms.[75] In biology, too, normality had largely displaced the abnormal as the focus of interest. The Swedish scientist Carl von Linné (1707-1778), Linnæus, had introduced a new system of taxonomy in his 1735 treatise *Systema Naturae*, by means of which specimens from all three Kingdoms of Nature could be classified. The abnormal, *mirabilia*, no longer played a role in Linnæan binomial nomenclature. Along with this paradigm shift in the system of scientific classification, state-of-the-art knowledge acquired in natural philosophy also changed the way in which collections were arranged and presented.[76]

(Fig. 65)

**Sandbar Shark (*Carcharhinus plumbeus*)**

SPECIMEN FROM A COLLECTION OF NATURALIA, 19TH CENTURY

**(Cat. No. 49)**

(Fig. 66)

**Representation of a Rhinoceros in Konrad Gesner's *Allgemeines Thier-Buch***

FRANKFURT A.M., 1669

**Rhinoceros-horn specimen from a collection of naturalia**

16TH CENTURY

**(Cat. No. 30)**

Isaac Newton's (1643-1727) realisation that the universe was infinite represented a major watershed. It shattered the notion that the macrocosm could be reproduced in miniature in a collection such as a Kunstkammer. Consequently, collections with a claim to universality would no longer represent the world as a whole but rather its diversity on the basis of the individual category. Hence the first specialised collections emerged in the 18th century: galleries of paintings, collections of antiques and antiquities, coin cabinets, collections of engravings, mathematical and physical exhibits and natural history collections. To fill those modern museums, collectors usually drew on the dynastic Kunstkammer, which were first deprived of their best exhibits and soon entirely disbanded.[77] The foundation of modern museums and the dissolution of most Kunstkammer in the 18th century were, on the one hand, caused by the wealth of new knowledge that had been acquired. On the other, they matched the change in the orders of knowledge, the new drive for classification, which Michel Foucault defined as the episteme of taxonomy.[78]

## THE ARMLESS CALLIGRAPHER THOMAS SCHWEICKER: *MIRABILIA* OR FREAK?

The re-evaluation of the Kunst- and Wunderkammer as a collection form is exemplified particularly compellingly by a portrait of the disabled calligrapher Thomas Schweicker (1540-1602) – a work that came from the Electoral Saxon Kunstkammer in Dresden (Fig. 67).[79] The 'großer Wundermann' ['great wonder man' of Schwäbisch Hall], as Schweicker was dubbed by contemporaries,[80] was looked on as a celebrity in the late 16th century because he was born without arms yet became a successful script writer who worked with his feet. The portrait of him found its way in 1603 into the Electoral Saxon Kunstkammer, where, according to the inventory drawn up in 1610, it was displayed together with a small panel, 'which Schweicker had written as script with his feet.'[81] The painting visually underscored the wonder character of the art font Schweicker had created for the Elector of Saxony.[82] Indeed Schweicker's calligraphic masterpieces were highly prized by princely collectors.

Ferdinand II of the Tyrol also displayed a work by this artist in his Kunstkammer at Ambras Castle.[83] What made Schweicker's calligraphic works such coveted *mirabilia* was not his disability but rather his ability to overcome with art the bad joke Nature had played on him. This is referred to in the sentence that Schweicker is depicted writing with his feet in the above-mentioned portrait: 'Deus est mirabilis in operibus suis' ('God is wondrous in his works'). Accordingly, what was so remarkable was not the disability itself but the fact that it could be overcome through art. The painting and the calligraphy that went with it granted visitors to the Dresden Kunstkammer a glimpse of the arbitrariness of Nature's creative powers, on the one hand, and, on the other, man's creativity that outdoes Nature. The creative powers of the disabled artist were in turn transferred in the collection room to the elector himself, who by the grace of God was permitted to practise the art of governance – in the face of all impediments thrown at him by Nature, by overcoming those obstacles with the same consummate elegance as that shown by the disabled artist in working with his feet to execute his calligraphic works. This message may have seemed obvious to visitors to the Dresden Kunstkammer in the early 17th century; by the 18th century, however, it became meaningless.

(Fig. 67)

**Portrait of the Armless Calligrapher Thomas Schweicker**

FROM THE DRESDEN KUNSTKAMMER . JAKOB HOFMANN, SIGNED SCHWÄBISCH HALL, DATED 1595

**(Cat. No. 51)**

Whereas numerous exhibits were taken from the Electoral Saxon Kunstkammer in the early 18th century to fill the newly founded museums, Schweicker's portrait remained a 'curiosity' in the Kunstkammer, which – far from its former brilliance – was condemned to an obscure existence on the top floor of the Dresden Zwinger. The painting was not transferred to the Royal Saxon paintings gallery until 1832 after the Kunstkammer had been entirely disbanded, and then only on the basis of its material substance.[84] The subject of the painting was evidently regarded as so offensive that the work was finally consigned to be sold at auction along with other exhibits that had lost their significance as Kunstkammer objects.[85]

This last example furnishes the ultimate proof of the profound changes collections underwent between the 16th and 18th centuries. Beginning with a conception of art as stemming from a creative competition between God, or Nature, and man as an artist, the Kunstkammer could exist as a collection form only as long as the principle of analogy remained the basis for cognitively grasping the world. With the emergence of modern taxonomy and new systems of classification, collections in which priority was given to the interaction of art and nature were evaluated as outmoded and labelled bizarre. Thus the modern museum replaced the Kunst- and Wunderkammer as a collection form. It was not until the 20th century that the crucial importance of the Kunst- and Wunderkammer for the early modern age was rediscovered – and even today this unique collection form continues to exert an undimmed fascination on the modern viewer who rediscovers wonder through the Kunst- and Wunderkammer.

(Fig. 70)

**Group of Renaissance Powder Horns**

SOUTH GERMAN, CA 1600

**(Cat. No. 34)**

[1] As an introduction to the subject of Kunst- und Wunderkammer, see among others Beßler 2009; Falguières 2003; Impey/MacGregor 2001; Lugli 1997; Grote 1994; Bredekamp 1993; Lugli 1990. [2] For the relationship of Kunst- and Wunderkammer to the *Ars memoriae*, see Bolzoni, L.: Das Sammeln und die ars memoriae, in: Grote 1994, pp. 129-168, and also Falguières 2003, pp. 23-31. [3] For the role played by *Exotica* in the Kunstkammer in designing the non-European world, see Spenlé, V.: Die Entdeckung des Exotischen für die Kunst- und Wunderkammer. The Discovery of the Exotic for the Kunst- and Wunderkammer, in: Laue 2012, pp. 38-57; Collet 2007. [4] For the terms 'indisch' [generically 'foreign' rather than specifically 'East Indian'] or 'indianisch' ['East Asian', often used of decoration as distinguished from 'European'] as applied to Kunstkammer objects, see Keating/Markey 2010. [5] For the coconut as an exotic collector's item with apotropaic properties in general, cf. Fritz 1983. [6] Also for the following observations, Bagden 1996, pp. 133-150. [7] Cook 2007, pp. 39-41. [8] For Schatzkammer objects as semantic vehicles, cf. Pomian 2001, pp. 38-43. [9] Daston/Park 1998, pp. 67-88. [10] Jardine 1998, pp. 37-90. [11] For the collections amassed by Jean de Berry, see Guiffrey 1894-1896. [12] Whiteley 1992; Whiteley 1990. [13] Labarte 1879, Nos. 2031-3066. [14] For the compasses or 'aiguylles de mer' ['sea needles'], ibid., Nos. 1988, 2259, 2646; for the astrolabes or 'astralabe', Labarte 1879, Nos. 1990, 2072, 2216, 2270, 2427, 2714, 2817, 3119 and 3125. [15] Essential Liebenwein 1977, pp. 134-157, and more recently Sunderhauf 1996. [16] Alberts 2015. [17] For the Dresden Kunstkammer from its beginnings to the mid-17th century, see Syndram/Minning 2012 and Marx/Plaßmeyer 2014. [18] Marx, B.: Die Kunstkammer als Museum, in: Marx/Plaßmeyer 2014, pp. 59-116; here p. 71. [19] For the Berlin, Munich, Stuttgart and Kassel Kunstkammer, see: Berlin 1981; München 2000; Fleischhauer 1976; Dreier 1961; Link 1974. [20] For the Kunstkammer of Rudolph II, see among others Bukovinská, B.: Die Kunstkammer Rudolfs II., in: Prag 1997, pp. 199-207; Bukovinská, B.: Bekannte – unbekannte Kunstkammer Rudolfs II., in: Schramm/Schwarze/Lazardig 2003, pp. 199-225. [21] Distelberger, R.: The Habsburg Collections in Vienna During the Seventeenth Century, in: Impey/MacGregor 1985, pp. 39-46; here pp. 41-43. [22] On the Ambras Castle Kunstkammer: Scheicher, E.: The Collection of Archduke Ferdinand II at Schloss Ambras: Its Purpose, Composition and Evolution, in: Impey/MacGregor 1985, pp. 29-38; and on the Graz Kunstkammer: Rochas, J.: La Kunstkammer de Charles II d'Autriche-Styrie, in: Poitiers 2013, pp. 228-233. [23] Most recently on this Korey 2007; Plaßmeyer, P.: 'Churfürst August zu Sachßen etc. Selagen selbsten gemacht'.

Weltmodelle und wissenschaftliche Instrumente in der Kunstkammer der sächsischen Kurfürsten August und Christian I., in: Marx 2005, pp. 156-169. [24] Dresden 1994, pp. 7-8 [25] Maurice 1985. [26] Kappel, J.: Elfenbeinkunst in der Dresdner Kunstkammer. Entwicklungslinien eines Sammlungsbestandes (1587-1741), in: Syndram/Minning 2012, p. 202. [27] Maurice 1985, p. 28. [28] For the Munich Kunstkammer see Seelig, L.: Die Münchner Kunstkammer, in: München 2008, Vol. 3, pp. 1-124. [29] Gundestrup 1991, Vol. 2, pp. XIII-XXXIV. [30] For the Rosenborg Palace collections, see most recently Hein 2009. [31] For Desden see, for example, Nagel, C.: Professionalität und Liebhaberei: Die Kunstkämmerer von 1572 bis 1832, in: Syndram/Minning 2012, pp. 360-379. [32] For the visitors' books kept by the Electoral Saxon Kunstkammer, cf. Brink, C.: 'auf dass Ich alles zu sehen bekhomme'. Die Dresdner Kunstkammer und ihr Publikum im 17. Jahrhundert, in: Syndram/Minning 2012, pp. 380-407. [33] In general Findlen 1994. [34] On Aldrovandi, see Tagliaferri, M. C./Tommasini, S./Tugnoli Pattaro, S.: Ulisse Aldrovandi als Sammler: Das Sammeln als Gelehrsamkeit oder als Methode wissenschaftlichen Forschens, in: Grote 1994, pp. 265-281; Simoni, F.: Le „Théâtre de la Nature" d'Ulisse Aldrovandi, in: Poitiers 2013, pp. 178-185. [35] In general, Stendardo 2001. [36] Findlen 1994, p. 31. [37] Ibid., pp. 198-206. [38] The armorial bearings depicted are those of the Dimpfel family of Regensburg, recorded since 1570 in Siebmacher's large *Wappenbuch* [Book of Coats of Arms], see Hefner/Hildebrandt/Seyler 1971, Plate 2. [39] Dimpfel 1938, pp. 16-17. [40] Münster, LWL-Museum für Kunst und Kultur (Westfälisches Landesmuseum), Porträtarchiv Diepenbrock, Inv. No. C-513400 PAD, http://www.portraitindex.de/documents/obj/33418086 (retrieved on 4 July 2015). [41] In general Augsburg 1980. [42] Augsburg 2008; München 1994; Seling 1980. [43] Keil, I.: Augsburger Instrumentenmacher, in: Augsburg 2009, pp. 32-36. [44] Laue 2008; Alfter 1986. [45] For Hainhofer as a dealer in Kunstkammer furnishings, see above all Mundt 2009 and Alfter 1986, pp. 42-62. [46] In the 17th century, both showy pieces of furniture and smaller cabinets were called 'Schreibtisch[e]' [desk[s], cf Alfter 1986, p. 10. The term 'Kunstschrank' ['art cabinet'], which is now in general use in art history, goes back to Friedrich Nicolai who made the first recorded mention, in his 1769 description of the Königliche Kunst- und Naturalienkammer [Royal Art and Naturalia Chamber] in Berlin, of the *'Pommerscher Kunstschrank'*, see Diefenthaler, S.-K: 'vil zu speculiren [the German derives from Latin *'speculor'* and retains the original Latin meaning: translator's note] und zu sehen' ['much to observe and to see']. A general report on the literature dealing with the *Pommersche Kunstschrank*, in: Augsburg 2014, pp. 78-85, here p. 79. [47] For the *Pommersche Kunstschrank* in general: Mundt 2009; Augsburg 2014. [48] Emmendörffer, C.: Wunderwelt. Der Pommersche Kunstschrank und sein 'Hainhofer-Code', in: Augsburg 2014, pp. 32-57, here p. 43. [49] Alfter 1986, pp. 57-58; Augsburg 2009, pp. 172-175, Cat. No. 50. [50] For the history of Antwerp from the 15th to the 17th centuries, see Limberger, M.: 'No town in

(Fig. 71)

**Set of Renaissance Game Pieces**

LEONHARD DANNER . NUREMBERG, CA 1540

**(Cat. No. 55)**

Weltmodelle und wissenschaftliche Instrumente in der Kunstkammer der sächsischen Kurfürsten August und Christian I., in: Marx 2005, pp. 156-169. [14] Dresden 1994, pp. 7-8. [15] Maurice 1983. [16] Kappel, I.: Elfenbeinkunst in der Dresdner Kunstkammer. Entwicklungsstufen eines Sammlungsbestandes (1587-1741), in: Syndram/Minning 2012, p. 202. [17] Maurice 1983, p. 28. [18] For the Munich Kunstkammer see Seelig, L.: Die Münchner Kunstkammer, in: München 2008, Vol. 3, pp. 1-124. [19] Gundestrup 1991, Vol. 2, pp. XIII-XXXIV. [20] For the Rosenborg Palace collections, see most recently Hein 2009. [21] For Dresden see, for example, Nagel, C.: Professionalität und Liebhaberei. Die Kunstkammerer von 1572 bis 1832, in: Syndram/Minning 2012, pp. 360-379. [22] For the visitors' books kept by the Electoral Saxon Kunstkammer, cf. Brink, C.: 'auf dass ich alles zu sehen bekhomme'. Die Dresdner Kunstkammer und ihr Publikum im 17. Jahrhundert, in: Syndram/Minning 2012, pp. 380-407. [23] In general Findlen 1994. [24] On Aldrovandi, see Tagliaferri, M. C./Tommasini, S./Tagnoli Parrano, S.: Ulisse Aldrovandi als Sammler: Das Sammeln als Gelehrsamkeit oder als Methode wissenschaftlichen Forschens, in: Grote 1994, pp. 265-281; Simoni, F.: Le „théâtre de la Nature" d'Ulisse Aldrovandi, in: Pomiers 2013, pp. 178-185. [25] In general, Tinti/Ardo 2001. [26] Findlen 1994, p. 31. [27] Ibid., pp. 198-206. [28] The armorial bearings depicted are those of the Dimpfel family of Regensburg, recorded since 1570 in Siebmacher's large Wappenbuch [Book of Coats of Arms], see Heiner/Hildebrandt/Seyler 1971, Plate 2. [29] Dimpfel 1938, pp. 16-17. [30] Münster, LWL-Museum für Kunst und Kultur (Westfälisches Landesmuseum), Porträtarchiv Diepenbrock, Inv. No. C 313300 PAD, http://www.portraitindex.de/documents/obj/13418000 (retrieved on 4 July 2015). [31] In general Augsburg 1980. [32] Augsburg 2009; München 1994; Seling 1980. [33] Keil, I.: Augsburger Instrumentenmacher, in: Augsburg 2009, pp. 32-36. [34] Laue 2008; Alfter 1986. [35] For Hainhofer as a dealer in Kunstkammer furnishings, see above all Mundt 2009 and Alfter 1986, pp. 42-62. [36] In the 17th century, both showy pieces of furniture and smaller cabinets were called 'Schreibtischle' [desk(s)], cf. Alfter 1986, p. 10. The term 'Kunstschrank' ['art cabinet'], which is now in general use in art history, goes back to Friedrich Nicolai who, aside the first recorded mention, in his 1769 description of the Königliche Kunst- und Naturalienkammer [Royal Art and Naturalia Chamber] in Berlin, of the 'Pommerscher Kunstschrank', see Diefenthaler, S. K.: 'viel zu speculiren [the German derives from Latin 'speculor' and retains the original Latin meaning; translator's note] und zu sehen' ['much to observe and to see']. A general report on the literature dealing with the *Pommersche Kunstschrank*, in: Augsburg 2014, pp. 78-85, here p. 79. [37] For the *Pommersche Kunstschrank* in general: Mundt 2009; Augsburg 2014. [38] Emmendörffer, C.: Wendelwelt. Der Pommersche Kunstschrank und sein 'Hainhofer-Code', in: Augsburg 2014, pp. 32-57, here p. 45. [39] Alfter 1986, pp. 57-58; Augsburg 2009, pp. 172-173, Cat. No. 50. [40] For the history of Antwerp from the 15th to the 17th centuries, see Limberger, M.: 'No town in

(Fig. 71)

**Set of Renaissance Game Pieces**

LEONHARD DANNER (...NUREMBERG, CA 1540)

**(Cat. No. 55)**

# GLOSSARY OF BASIC KUNSTKAMMER TERMS

## APOTROPAIC POWERS

Apotropaic, an adjective from Greek α΄ποτρε΄πειν: 'to turn away' (German noun *'Apotropäium'*: a magic charm with powers of warding off evil) meaning possessing magical powers of warding off evil that have been imputed into substances and materials since antiquity and were usually used as an indicator of toxicity. Substances and materials believed to possess apotropaic powers include precious coral, the coconut, → Unicorn horn, rhinoceros horn, → Bezoar and serpentine, a semiprecious stone. These particularly rare → *Naturalia* were, on the one hand, ground to powder and sold as universal remedies by apothecaries; on the other, they were coveted collector's items because they were so rare and because they possessed apotropaic properties. They were often mounted or worked as precious drinking vessels displayed at court festivities on credenzas and usually kept in the → Schatzkammer or the → Kunstkammer.

## ARS MEMORIAE

*Ars memoriae* (English: 'the art of memory/recollection') or mnemonics are terms used for an array of mental techniques that are supposed to facilitate storing and retrieving information and were particularly intensively discussed in scholarly circles in the first half of the 16th century. Crucial to the emergence of the → Kunstkammer as a universal collection was the idea that knowledge could be articulated by memory spaces (loci) and deposited there in the form of images *(imagines)*. In the treatise *L'idea del teatro* (1550), Giulio Camillo provided concrete designs for an ideal *theatrum sapientiae*, a theatre of knowledge, which he had realised some years before as a wooden model. It anticipated the conception of the → Kunstkammer as a physical space for ordering knowledge and making it available.

## ARTIFICIALIA

*Artificialia* was a term applied in the collecting culture of the early modern age to art products in the widest sense of the term, not just paintings, works of sculpture and the graphic arts, but everything that was 'artificial,' i.e., manmade – including works by goldsmiths, stone-cutters, cabinet-makers and turners. *Artificialia* also included *naturalia*, which had been refined and improved with elaborate mounts, carvings or engravings, pieces which even more vividly than other → Kunstkammer exhibits demonstrate man's ability to outdo Nature through art.

## BEZOAR

The bezoar (from Persion *padzahr*, i.e., 'antidote') was, along with → 'Unicorn horn', one of the most highly prized → Apotropaic substances that were literally worth their weight in gold in the early modern age. The bezoar is a gastrolith found in the stomach or intestines of the bezoar ibex *(Capra aegagrus aegagrus)*, a Middle and Near Eastern subspecies of wild goat. So valuable that they were often mounted in gold or silver, bezoars represented an indispensable collector's item in both princely and middle-class → Kunst- and Wunderkammer.

## TURNING

Turning, a demanding and sophisticated technique employed in the working of ivory, bone, amber, serpentine, hardwoods and even metals into art, requires the use of a lathe and specialised tools. Great importance was attached by the owners of → Kunst- and Wunderkammer to turned artworks, especially ivory cups. Since the 16th century turning had been an integral part of the education of princes and those princes who devoted themselves to this art were by no means amateurish in their handling of it: that this was so is compellingly attested by the signed ivory cups personally turned by Augustus, Elector of Saxony, in the third quarter of the 16th century, works that subsequently found their way into the → Kunstkammer in the Residenzschloss, the Dresden Palace. Like → *Scientifica*, artworks of this kind made by reigning princes referred symbolically to their ability to govern: to the extent that a prince could upgrade his raw materials on the lathe to the status of artworks, he was also able to establish and uphold a higher social order.

## UNICORN HORN

Unicorn horn, so-called, but actually the tusk of the narwhal, was one of the collector's items that was most shrouded in myth and legend and highly prized from the Late Middle Ages on. Although the Danish physician and antiquary Ole Worm had by 1638 convincingly demonstrated that 'unicorn horn' did not come from the mythical unicorn but from the left – usually single – tusk of the male narwhal, the belief in the magical powers of this form of → *Naturalia* persisted for a long time, which was often attached to the ceiling of collection rooms. It was also sold in powdered form in apothecaries as an → Apotropaic substance.

## ESTUDE, SEE STUDIOLO

## EXOTICA

Appearing in the 17th century at the latest, the word exotica refers to exhibits of various kinds, chiefly → *Naturalia*, → *Artificialia*, utilitarian objects (ethnographic artefacts) and weapons that on the basis of provenance, material or iconography indicate non-European origins. Such objects are often valuable, were made in Asia, Africa and the Americas for the European art market, and were laconically termed *'indianisch'* or *'indisch'* ['Indian'] – even when they came from Japan or China. Great importance was attached to *exotica* in the → Kunst- and Wunderkammer of the early modern age because they evoked exotic remote lands outside Europe, an attitude that says more about the way Europeans perceived themselves than about actual foreign cultures and civilisations.

## EARLY MODERN AGE, THE

Early modern age is a periodisation term used by historians and literary scholars and theorists to designate the age that began roughly with the emergence of humanism in the Late Middle Ages and ended shortly before the close of the 18th century with the Enlightenment and the French Revolution. As a collection type, the → Kunst- and Wunderkammer is firmly anchored in the early modern age.

## KISTLER

In German usage of the 16th and 17th centuries, cabinet-makers who specialised, primarily in the south German free imperial city of Augsburg, in making what were then called → *Schreibtische*, i.e. cabinets and → *Kunstschränke* [art cabinets], were known as *Kistler*.

## KUNSTKAMMER, WUNDERKAMMER, KUNST- AND WUNDERKAMMER

The Kunst- und Wunderkammer ['art and curiosities cabinet' is frequently and too narrowly used in English] is a type of encyclopaedic collection that emerged at European courts and in European cities in the mid-16th century and continued to predominate well into the 18th century. Inside it, art objects of all genres, → *Artificialia*, as well as scientific and technical implements, → *Scientifica*, were exhibited alongside → *Naturalia* to reproduce the world as a *theatrum mundi* in the collection room. The defining principle informing this collection type is the analogy between the macrocosm and the microcosm: the cosmological system is interpreted as a referential network in which objects and living organisms, spirit and matter are interlinked and influence each other. The purpose of the Kunst- and Wunderkammer is to elucidate this network of recondite relationships. As a *theatrum sapientiae*, a theatre of knowledge, it places products of nature, art and science at visitors' disposal to enable them to acquire knowledge via a visual and tactile approach to learning. The Kunstkammer is structured along the lines of the art of memory, → *Ars memoriae*. In the mid-16th century the term 'Wunderkammer,' first recorded in the *Zimmersche Chronik* (1566) written by Count Froben Christoph von Zimmern, also entered German usage as a synonym for 'Kunstkammer.'
The German 'Kunst- and Wunderkammer' has become established in other languages besides German as the accepted art historical term for this collection type so characteristic of the early modern age.

## KUNSTKÄMMERER

At European courts, dynastic → Kunst- and Wunderkammer were usually curated by an artist, a scientist or a technician, who was often given the title *'Kunstkämmerer'* ['supervisor of a Kunstkammer'] in the 17th century. The *Kunstkämmerer* or head curator was, on the one hand, charged with maintaining, inventorying and presenting the collection and its exhibits and, on the other, with guiding visitors to the collection through the collection rooms who were strangers to the owners.

## KUNSTSCHRANK

The large pieces of → Kunstkammer storage furniture made for collectors of high social standing in the 17th century and delivered replete with contents are called *Kunstschränke*, literally 'art cabinets.' This art historical term was not coined, however, until the late 18th century, when it was applied specifically to the *Pommersche Kunstschrank*, which the Augsburg art expert and diplomat Philipp Hainhofer had commissioned for Duke Philipp II of Pomerania-Stettin in the early 17th century. In the 16th and 17th centuries, furniture of this kind was called → *Schreibtische* ['writing-desks'] regardless of its unusual features, contents, fittings and large size.

## MEMENTO MORI, SEE VANITAS

## MIRABILIA

The words *Mirabilia, Meraviglia* (Italian) or *Wunderwerke* referred in the 16th and 17th centuries to → Kunstkammer exhibits that amazed visitors because of their abnormality, freakishness or unexpected operating mechanisms and were thus supposed to initiate the learning process and add to their knowledge. These exhibits were, on the one hand, actual or depicted → *Naturalia:* for instance, rare disabilities or medical conditions in human beings, aborted animal foetuses or deformed plants, phenomena that contemporaries interpreted positively as caprices of Nature. On the other, *mirabilia* also included → *Artificialia* distinguished by sophisticated mechanisms or entailing unusual processes of production, objects that attested to the maker's almost divine powers of creativity.

## MNEMONICS, SEE *ARS MEMORIAE*

## NARWHAL, SEE 'UNICORN HORN'

## NATURALIA

Natural objects, *naturalia*, play a crucial role in → Kunst- and Wunderkammer: as God's creations, they represent the direct opposite of → *Artificialia*, man's 'artificial' works, hence they are vital to the conception of the collection space as a *theatrum mundi*. Along with mineral samples, taxidermists' specimens of stuffed fauna and dried flora (mainly seeds and roots), the three Natural Kingdoms were also represented by albums, drawings, copperplates and publications. Scholars such as Ulisse Aldrovandi, for example, focused on collecting *naturalia*. In court collections *naturalia* with → Apotropaic properties tended to be represented as well as *naturalia* that exemplified a country's wealth, such as ore samples from natural deposits.

## SCIENTIFICA

*Scientifica* represent an essential component of → Kunst- and Wunderkammer of the early modern age, in particular of court collections amassed in the latter half of the sixteenth century. The term applies to instruments used in mathematics and physics, tools and technical apparatuses, surgical instruments, clockworks of all kinds and instruments for measuring space and time, such as globes, maps, astrolabes, measuring sticks (rulers), sundials, pedometers, etc. Usually regarded as a means to display status and power officially, *scientifica* in princely collections referred symbolically to a prince's ability to govern.

## SCHATZKAMMER

The Schatzkammer [‘treasury’, ‘vault’, ‘treasure chamber’] is a collection type that occurs as far back as the Middle Ages in profane royal seats and ecclesiastical establishments. Objects of great financial, spiritual or official value are stored in it: chiefly royal regalia and crown jewels, reliquaries, goldsmiths’ work and artworks of an exotic nature such as coconuts mounted as cups, credenzas for displaying corals, mounted ostrich eggs and the like. Unlike → Kunst- and Wunderkammer, the Schatzkammer does not reproduce the world as a microcosm nor does it represent a claim to increase visitors’ knowledge on the basis of the objects deposited in it. On the contrary, it is an accumulation of treasures that functions both as a means to displaying official authority and wealth and as a money reserve, and for security reasons is not accessible to visitors. Schatzkammer only gradually changed into public collections during the 18th century. This transition is exemplified by the Green Vault in the Dresden Palace, in which Augustus the Strong (Friedrich August I, Elector of Saxony) showed precious objects from the dynastic Schatzkammer and Kunstkammer that were accessible to quite a broad public as the Schatzkammer Museum.

## SCHREIBTISCH, ‘WRITING-DESK’

The German word *Schreibtisch* (Italian: *scrittorio*; Spanish: *escritorio*) means ‘writing-desk.’ In the 16th century it designated a square piece of portable furniture that was originally used by travellers for storing writing utensils, important papers and valuables beneath a sloping lid that could be used as a writing surface. In the latter half of the 16th century, this furniture type was further developed in both form and function: often designed as a miniature palace to stand alone and be viewed from all sides, it now served as a stately piece of storage furniture to house collector’s items. Despite the change in function, cabinets of this kind continued to be called *Schreibtische*, i.e. ‘writing-desks’. Now the art historical term for the most magnificent examples of the type is → *Kunstschränke* [‘art cabinets’].

## STUDIOLO

*Studiolo* (Italian) or *estude* (French) is the term for a type of room in both profane and ecclesiastical palaces. From the Late Middle Ages onwards, it evolved into a study in the apartments used by the head of the household. In the Renaissance it developed into a room of a more official, formal character with panelling on walls worked elaborately with intarsia or featuring panel paintings. Exhibits from collections were quite often displayed in *studioli* to underscore the owner’s humanist education, an effect reinforced by the wall panelling. Even by the end of the 14th century, estudes have been recorded in France that functioned as collection spaces. Unlike → Kunst- and Wunderkammer, the *studiolo* or *estude* was a small, intimate room, in which the collector’s items were not immediately visible but tended to be stored in cabinets, hidden behind the wall panelling.

## *VANITAS*

In the early modern age, *vanitas* (Latin: ‘vanity,’ meaning ‘futility’) was a subject with which most people were preoccupied on a daily basis; after all, the idea that all earthly things were transient was a guiding principle of Christian doctrine. Consequently, the *vanitas* theme was also omnipresent in → Kunst- and Wunderkammer: what were known as *memento mori* (‘Remember that you must die’) or *vanitas* objects reminded collectors and visitors alike of their mortality and the necessity for leading a Christian life. This explains why collecting was not inevitably regarded as a morally reprehensible accumulation of material goods but rather as an activity that promised redemption: the thirst for knowledge manifest in the → Kunst- and Wunderkammer was associated with reverence for God’s work. Hence a visit to a → Kunstkammer was quite often viewed as a secular alternative to the devotions organised by the Church.

## WUNDERKAMMER, SEE KUNSTKAMMER

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